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*The Beaufort's Dyke, off the Coast of the Mull of Galloway.* By H. G. KINAHAN. Proceedings of the Royal Irish Academy, Third Series, Vol. VI, No. 1.

In the Proceedings of the Royal Irish Academy, Third Series, Vol. VI, No. 1, Mr. H. G. Kinahan, District Surveyor (Retired), H. M. Geological Survey, describes "The Beaufort's Dyke, off the Coast of the Mull of Galloway." This "dyke" is a deep trough in the bed of the Irish Sea nearer the coast of Scotland. The plate accompanying the article reproduced from the Admiralty charts, shows a long line of soundings of 100 to 148 fathoms, surrounded by a comparatively level bottom 70 or 80 fathoms deep. Attention is just now directed to these depths by the proposition to construct a tunnel from Scotland to Ireland. The geological interest lies in the fact that in this trough "there are sands, gravels and their adjuncts, at depths of from 120 to 144 fathoms that are carried backward and forward similarly to those on an ordinary sea beach." This is much deeper than the waves and currents even on most exposed coasts have been supposed to act. The vigor with which this deep washing occurs may be inferred from figures given in a table, which show that at one point the bottom was cut down by erosion from a depth of 117 fathoms to a depth of 146 fathoms from 1894 to 1897 or nearly 60 feet a year. At other times filling was similarly rapid. The origin of the dyke or trough itself is left in doubt but faulting and glacial action are suggested. The origin of currents capable of acting at that depth is the main subject of interest. It is assumed that while the effect of wind waves and tide waves is reduced to zero at moderate depths there are deep currents induced by these superficial waves, to the depth of whose action no definite limit is assigned. The author contrasts these currents with the ordinary tidal races which may be supposed to erode shallow places more than deep ones. He refers to his former publications for detailed proof that denudation by these currents in question "is in ratio to the depth of the water." The whole article goes to show that when the movements of water are controlled by channels or reflected from irregular shores, the coarseness of the sediments at given depths bears little relation to the mathematically computed power of the water for those depths.

N. M. F.